


October 7, 1987

TO: File

FROM: Frank Filas, Reclamation Engineer 

RE: Site Inspection, Cane Creek Mine, Texasgulf, Inc., M019/005

On October 10, 1987, Frank Filas, Frank Jensen and David Wham met with Jim Huizingh, Jim Scroggins and Jim Davis of Texasgulf at the Cane Creek Potash Mine. This inspection was done as part of the review of the Mining and Reclamation Plan that was submitted on September 11, 1987 by Texasgulf. Specific items that were discussed are detailed below:

Spill Collection: The berms of the spill collection dams that are located throughout the mine site are lined with (1) 30 mil PVC and covered with rock (older method) or (2) 30 mil nylon-reinforced hypalon (new method). A maintenance worker in a truck patrols the pipelines on a continual basis. In addition, the suction pumps have alarms on them that sound when there is a break in the line.

Evaporation Ponds: The evaporation ponds are lined with 30 mil PVC, which is protected by six- to seven inches of salt. The exposed outer portion of the PVC liner is covered with a second liner of 30 mil nylon-reinforced hypalon. A harvester (an elevating scraper monitored by laser) will occasionally rupture a liner. Repairs are made with PVC liner material and the "soft" area is not harvested again until the protective salt layer is built back up.

Subsidence: Texasgulf has surveyed the area above the mine several times and the surface area was found to have subsided several inches. The underground pillars lose approximately one inch per year off the outer exposed area, and it is presumed that further subsidence will probably occur. No surface cracks or differential disturbance has been observed. It is believed that subsidence will not be a major problem because the mine is very deep and is overlayed with competent, arch-shaped limestone formations

Construction Plans: The construction plans for the evaporation ponds are identical for all the ponds. Texasgulf submitted the plans for the northern ponds only. Submittal of the construction plans for the remaining ponds will not be required.

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Revegetation: The soils information provided in the plan is excellent and species selection is also good. The Division may recommend that several hardier species (such as rabbitbrush) be incorporated into the seed mix.

Seepage: The Division's primary concern is for the prevention of seepage of salt-laden waters from the evaporation ponds into the Colorado River. Seepage through the liners is occurring and will continue to occur despite the fact that Texasgulf is doing a good job in repairing and monitoring the PVC liner. Texasgulf has installed a series of check dams and sump pumps below the evaporation ponds. A collection trench has been dug below the lowest dam. Seepage into this trench was initially 50 gpm but has now slowed considerably. The salinity of the collected water is approximately 10 percent. It is apparent that additional seepage control measures need to be implemented in this area.

Reclamation Hydrology: The proposed reclamation plan appears to be inadequately designed for the handling of runoff from major storm events. This is not an immediate concern, but it does need to be looked at.

FF/jr

cc: L. Braxton  
F. Jensen  
D. Wham

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